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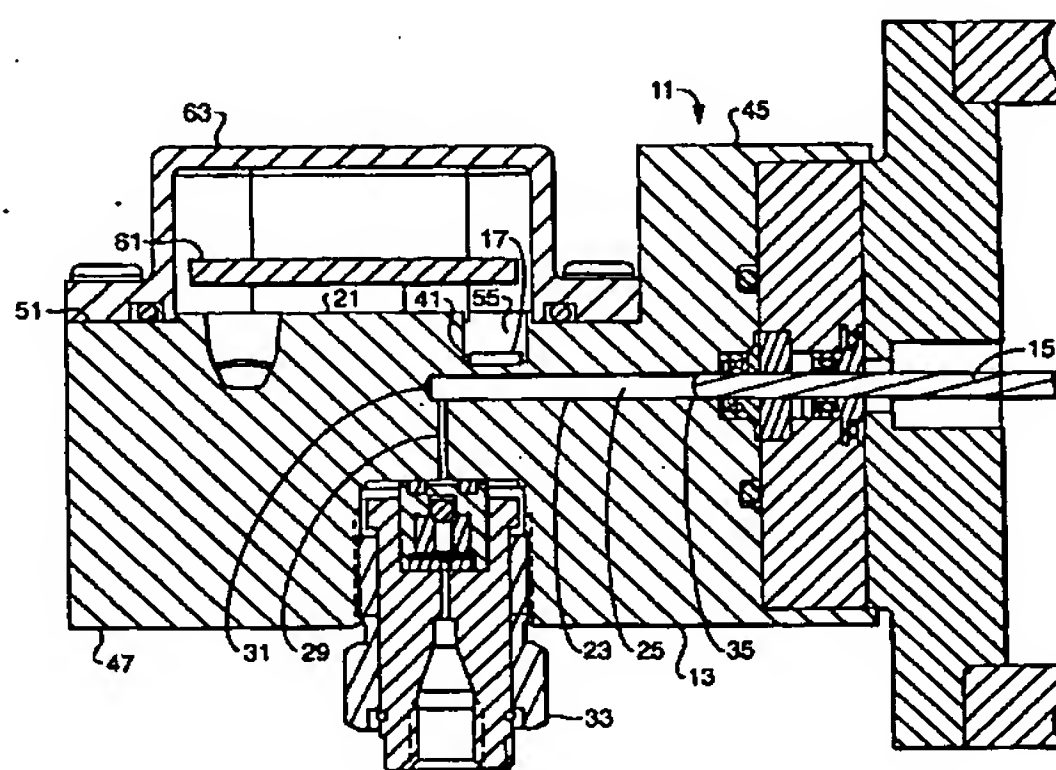
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(54) Title: **DEVICE AND METHODS OF MEASURING PRESSURE**



(57) Abstract: Embodiments of the present invention are directed to method and devices for measuring the pressure of a pump chamber in which no internal opening or connections are needed. One embodiment of the present invention is directed to an apparatus comprising at least one housing having a transducer surface. The transducer surface has a thickness for pumping fluid. The apparatus comprises at least one housing having a transducer surface. The transducer surface has a thickness exhibiting measurable deformation upon the chamber holding a fluid under pressure such that the transducer surface has a first position at which the chamber is at one pressure and a second position at which the chamber is at a second pressure. A strain sensor is affixed to the transducer surface producing; at least one signal upon the transducer surface assuming the first position and at least one signal upon the transducer surface assuming the second position to function as an integrated pressure transducer.

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